State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #_____
HRI #_____
Trinomial_____
NRHP Status Code_____
Other Listings_____
Review Code_____ Reviewer_____ Date_____

 Resource name(s) or number(assigned by recorder) N-239A

P1. Other Identifier: 50' Diameter Low-G Simulator; Life Sciences Laboratory High Bay
***P2. Location:** ☒Not for Publication ☐Unrestricted ***a. County** Santa Clara
***b. USGS 7.5' Quad** San Francisco North, Calif. **Date:** 1995
***c. Address** 440 Bushnell Street **City** Moffett Field **Zip** 94035
***e. Other Locational Data:**

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries.)

Building N-239A is a two-story warehouse with a concrete foundation, concrete exterior, and flat roof. The smooth concrete exterior is interrupted by evenly-spaced concrete piers. On the west façade are steel overhead doors, metal doors, and a concrete loading dock and canopy to Building N-239. The south façade features a large steel overhead door. Finally, on the east façade is a metal stair with access to the first and second floors and a concrete block wall, which forms an exterior storage shed. This building housed a dynamic flight simulator, the vertical acceleration and roll device and other simulators. It is 30,140 sq. ft.

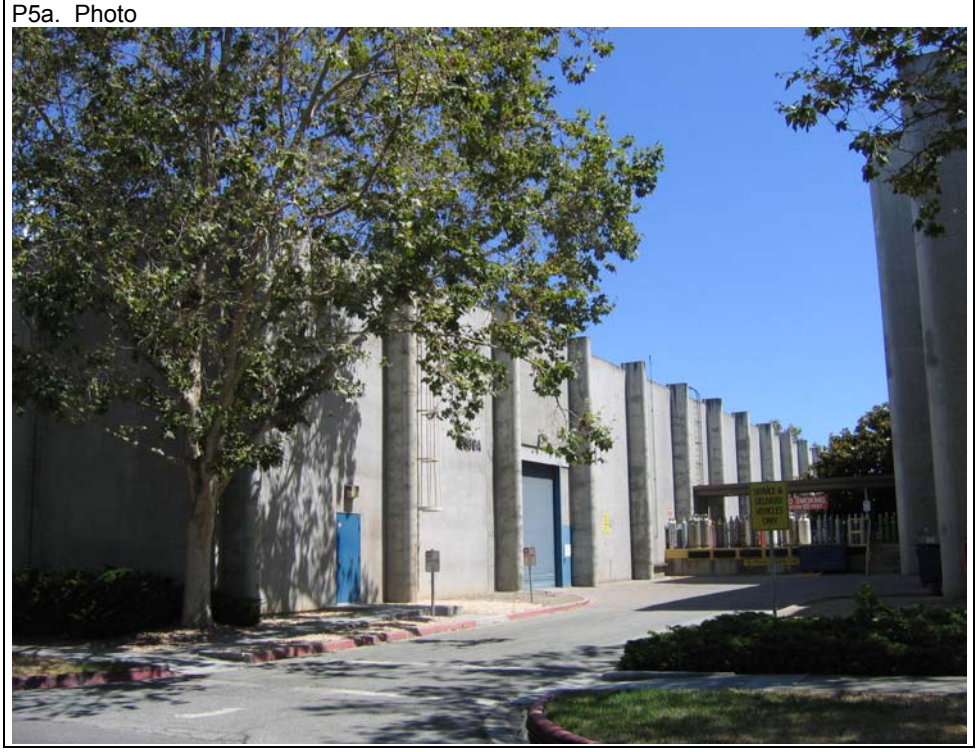
For technical description, see Continuation Sheets.

This building appears to be in good condition.

***P3b. Resource Attributes:** (list attributes and codes) HP8 – Industrial Building

***P4. Resources Present:** ☒Building ☐Structure ☐Object ☐Site ☐District ☐Element of District ☐Other

P5a. Photo



P5b. Photo: (view and date)
View of west façade (08/04/05)

***P6. Date Constructed/Age and Sources:** 1966

***P7. Owner and Address:**
United States of America as represented by National Aeronautics and Space Administration (NASA)

***P8. Recorded by:**
Page & Turnbull, Inc.
724 Pine Street
San Francisco, CA 94108

***P9. Date Recorded:** 08/04/05

***P10. Survey Type:**
Reconnaissance

***P11. Report Citation:** National Aeronautics and Space Administration, *Technical Facilities Catalog*, Volume 1, publication NHB 8800.5A (1), October 1974; Technical Information Division, Ames Research Center, *Ames Research Facilities Summary,* 1974; Donald D. Baals and William R. Corliss, *Wind Tunnels of NASA,* NASA SP-440, 1981.

***Attachments:** ☐None ☐Location Map ☐Sketch Map ☒Continuation Sheet ☐Building, Structure, and Object Record
☐Archaeological Record ☐District Record ☐Linear Feature Record ☐Milling Station Record ☐Rock Art Record
☐Artifact Record ☐Photograph Record ☐ Other (list)

4. VERTICAL ACCELERATION AND ROLL DEVICE

DESCRIPTION:

The Vertical Acceleration and Roll Device is a dynamic flight simulator with vertical translation and roll rotation capabilities used for flight simulations requiring visual contact, as well as aircraft, spacecraft, and medical investigations requiring vertical and roll accelerations. It consists of a two-place, side-by-side cockpit supported on a vertical track. This simulator is normally operated closed-loop with flight dynamics generated on an EAI 231R analog or EAI 8400 digital computer programmed to account for vehicle dynamic response to pilot control inputs.

In the near future, a television camera will be driven closed-loop for acquiring a TV monitor view of a model runway and surrounding countryside as a visual aid in landing approach studies.

DRIVES:

Rotary hydraulic servo motors provide linear motion for the vertical excursion, controlled by an electro-hydraulic servo valve. An electrically controlled linear actuator is used for roll.

STATUS:

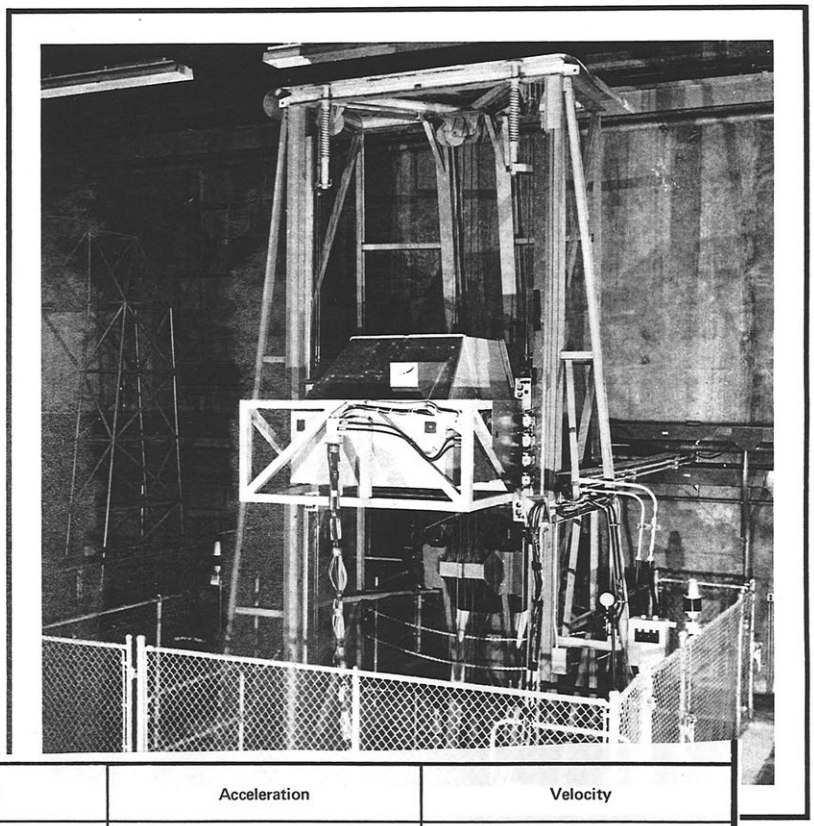
Operational since 1973

JURISDICTION:

Life Sciences Directorate
Melvin Sadoff

LOCATION:

Building N-239A



Motions Generated	Displacement	Acceleration	Velocity
Vertical	±10 ft	±2 g	±12 ft/sec
Roll (not man-rated)	±30°	±3 Rad/sec^2	±3 Rad/sec

9. FIXED-BASE TRANSPORT SIMULATOR

DESCRIPTION:

The Fixed-Base Transport Simulator is primarily used to study flight management procedures and crew performance with advanced cockpit display/control configurations. The two seat cab may be used with either a virtual image TV display for day scenes, or a digitally generated collimated CRT display for night scenes. The cab is equipped with both conventional aircraft panel instruments and a general purpose, high resolution CRT display for simulating advanced avionics systems. This simulator is used in the closed-loop mode with pilot controls that are connected to hydraulic loaders for variation of control system parameters. Aircraft sounds are simulated to induce realism and to provide auditory cues for the pilot. Aircraft and wind dynamics for visual scenes and instrument displays are provided by either an SEL-840MP digital computer or an EAI 84000 computer. Representative research using this simulator includes studies of Space Shuttle energy management, STOL aircraft navigation, and elevated STOL port landing procedures.

DRIVES:

None

MOTIONS SIMULATED:

None

STATUS:

Operational since 1967

JURISDICTION:

Life Sciences Directorate
Edward M. Huff

LOCATION:

Building N-239A